

accounts which have been given of its wonders by ancient writers with its present state of ruin as furnished by modern tourists. The name of Nineveh occurs in the next verse to the one cited, and of that great city we shall then likewise have occasion to speak more largely. The eleventh chapter of Genesis records the building of the tower of Babel and the dispersion of the people in consequence. The consideration of these events will be connected with our inquiry into the former and present state of Babylon, "the parent city of the world." At present we will but pause to remark that the art of building must have made considerable progress at this time (about 150 years after the Deluge), and that the description of the materials, well-burnt bricks and slimes, or bitumen, corresponds exactly with the remains which are presumed to be those of the Tower of Babel.

There is no account of altars being erected from the time of Noah until Abraham was called out from a land of idolaters, when we find that he "built an altar unto the Lord" in the plain* of Morch near Sichem (Gen. xii. 6, 7), and another at Beth-el (v. 8), to which last place he returned (Gen. xiii. 3) when he came up out of Egypt with his nephew Lot. We may be allowed with some reason to consider this altar in the light of a temple, before which the patriarch assembled the numerous household of which he was the head (for we are told in Gen. xiv. 14, that he armed 318 trained servants born in his own house), forming a church, if we may so term it, to which Abraham officiated as priest when he "called upon the name of the Lord." After Abraham separated from Lot, he "removed his tent and came and dwelt in the plain† of Mamre which is in Hebron, and built there an altar unto the Lord." (Gen. xiii. 18.) This is the spot in which was displayed that astonishing instance of divine condescension when a mortal was permitted to plead with his Creator face to face (Gen. xviii.) in behalf of his guilty neighbours. The oak of Mamre, beneath whose shade Abraham was wont to sit "in the heat of the day," was known and venerated in the time of Constantine, and we find Jerome and Eusebius speaking of it as still remaining in their time and held in regard. G. R. F.

TO THE EDITOR OF THE BUILDER.

SIR,—I have for some time past been struck with the frequent serious damage to buildings occasioned by lightning. Among many other instances that of St. Martin's-in-the-Fields must be fresh in the recollection of every one; and when it is considered that all danger might be obviated at a very small expense by the use of a conductor, it is strange such a safeguard should not have been more generally adopted. Nothing can be more sudden and appalling than the visitations of this merciless destroyer, and there is scarcely a church of any antiquity which has not at one period sustained injury by its means; and yet I would venture to make the assertion that nine-tenths of our village churches are left without any safeguard from its fury. To produce a conviction of the great utility of the lightning rod it is necessary to explain the principle on which it acts, and this I will in a few words endeavour to do.

The electric fluid is attracted by many substances called conductors in the more general sense of the term, among which the metals occupy a prominent place; but it depends entirely upon the form of the conductor in what way it yields to the attraction; if it terminate in a ball or mass of any irregular shape, not presenting any sharp points, the fluid strikes it in a body, and in the case of lightning presents the phenomena of forked, or more rarely, ball lightning. If, on the contrary, it terminate in one or more points, the fluid, instead of flying in a mass, pours on to the conductor in one continuous stream, and either reaches the ground or is dissipated in the air. From this it is evident that the popular idea, that buildings having conductors attached to them are the more likely to be struck by lightning, is a complete fallacy. The fact is, that it very seldom happens that a building having a conductor is ever struck at all. The fluid pours down invisibly in a dense, silent current, the only effects produced being to heat intensely the point of the rod, and sometimes almost to fuse it. To guard against this, which (by taking off the extreme sharpness of the point) destroys the effect, it is a good plan to have at the end of the rod, which should be about five-eighths of an inch in diameter, five or six branches, each brought to a fine point and tipped with platinum, the most infusible metal known; by this arrangement, the stream of fluid is divided, and the risk of fusion avoided. Hoping these remarks may meet the eyes of some who may attend to their suggestions.

I am, Sir,
Φιλετρον.

* Or by the oak of Sichem.—Bishop Wilson.
† Or by the oak of Mamre.

TO THE EDITOR OF THE BUILDER.

SIR,—If you think the inclosed simple method of working in stone the head of a semi-circular niche worthy insertion in THE BUILDER, it is at your service. The mason will at once see that this method, compared with the antiquated one, saves in each stone of the head the angular piece P, so that it has not the advantage only of saving material and labour, but may also be cut out of blocks of much less dimensions than by the old method of working with a square instead of this plan by a bevel.

Having a conviction that your valuable publication, if supported as its merits deserve, will eventually be the means of dragging many young tradesmen from the gin-shop and other unprofitable haunts, and that such trifles as these frequently set

young men a thinking for themselves, I trust you will not think me presumptuous in making so trifling an offering. I believe the invention is my own, as I have never seen it practised by any one but myself. I have tested its correctness both by modelling on a small scale, and also in work. If it meets your approbation, I will occasionally contribute other things of what I conceive a useful character.

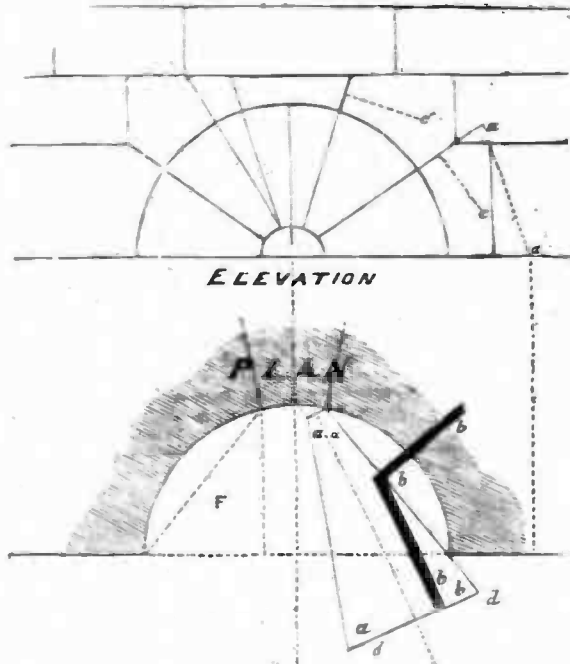
I am, Sir,

Yours respectfully,

Leicester, July 9, 1843.

W. LINDLEY.

[We shall be happy to hear from Mr. Lindley again. This exertion of his good-will and skill is creditable to him, and will, no doubt, be the means of conveying the profit of knowledge to many, which, to a right mind, is a rich reward.—Ed.]



a a a, face-mould of soffit to each stone, from which the beds are wrought by bevel b b b. The bevel for working the beds is got by a line drawn at right angles across the bed, and a line drawn parallel to centre line of face mould; the beds wrought at right angles each way from the axis of

soffit and bed, will be at right angles from the face of wall, on a line square from the radiating joint or bed, as at c c on the elevation.

d d on face-mould corresponds with d d on elevation.

A FEW WORDS ON EXCAVATIONS FOR SEWERS, &c. &c.

TO THE EDITOR OF THE BUILDER.

SIR,—A few remarks on the mode and cost of breaking up and excavating ground for sewers and other similar works, may not perhaps be uninteresting to some of your readers, especially those just commencing their career in this branch of the profession.

If the contractors for works were in the habit of forwarding notes of their proceedings and mode of operations under various circumstances to the professional journals of the day, I am persuaded much real benefit would be conferred on the "rising members" of the engineering and architectural professions; as it is, however, contractors, either for lack of time, or from unwillingness to divulge the rationale of their proceedings, seldom, or indeed ever, do so; the consequence is that they are looked upon by the public to be mere machines, as it were, entirely governed by the directing mind of the architect or engineer of the works upon which they may happen to be engaged; so that their status as professional men is of very humble rank, and but little estimated, with those not versed in technical of nomenclature. Let us ask, however, is it really so? Unquestionably not; for if proofs were wanting to the contrary, a decent array of facts affirming the reverse could be easily gathered together, and put in a light so clear and strong as to convince the most sceptical. Both in and out of the "trade," that a contractor ought, and must, be a man of talent, possessing a thorough knowledge of the practical part of the profession; he must not only be capable of getting up an estimate profitable to himself, but he must have a mind capable of grasping with the unforeseen difficulties which so frequently break in upon his operations; he should be skilful in devising remedies, and prompt in carrying them into effect, not only in

the most economical, but in the best manner possible, for he it is who has "to pay the piper" in case of accident; in fact, if any untoward error happens, he is let in for the loss, both of money and reputation, the blame in six cases out of seven falling on the contractor, when really it ought to have fallen on the architect or engineer who framed the plan.

There is scarcely any thing in the whole range of plain earth work that varies so much and so frequently as sewer excavations, city water-courses, or gas mains; though from the latter being but superficial they are not so subject to extensive fluctuations as either of the former. One great cause of the expense of sewer excavations arises from the uncertainty of such work, when compared with other work of the same extent; from the very nature of the thing, it is almost impossible to avoid some kind of interruption and annoyance. We may, for instance, take a contract in one neighbourhood at a certain rate per yard, and gain a good remunerating profit by it; on the other hand, all things being apparently similar, a second contract may be taken at the same rate, and yet the result shall leave a heavy loss, notwithstanding all the judgment and caution of the parties most interested. How is this to be accounted for? Is a very natural question to ask, and one worthy of full investigation by those practical men who have the necessary time on hand to compare notes of their proceedings and results.

A sudden unexpected change in the nature of the soil is frequently a cause of much perplexity, mischief, and expense to the contractor, the man of limited means, or the young beginner especially, for it unfortunately happens too frequently that they are without sufficient plant and material to meet the new emergency thus suddenly called for; the consequence is to them a heavy loss, either through the work tumbling in, or from the expense of getting additional plant, which they have to purchase in a hurry for the occasion; let it be